



POLICY ENHANCEMENT AND PRODUCTIVITY PROJECT

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Action Plan: Future Activities to Promote Exportation of Honduras Cheese Varieties

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Executive Summary

The technical assistance undertaken by this consultant between July 19 and August 23, 2000 related to the dairy policy of Honduras. The title of the assignment is “Dairy Policy - Access to the U.S. Specialty Dairy Product Markets.” Under the terms of reference, there were three (3) specific activities to be undertaken by this consultant, they follow: an evaluation of current policies/regulations of importing Honduran dairy products into the U.S. market, an examination of the mechanisms to export ethnic Honduran dairy products into the U.S. market, and establishment of the guidelines and standards for Honduran dairy plant inspection and certification. These three activities represent the legal, commercial, and technical activities that will be necessary in order to export traditional cheese varieties from Honduras to the U.S. market.

The legal requirements that must be met in order to facilitate export of Honduran cheese varieties to the U.S. market include:

- Promulgation of appropriate and applicable good manufacturing practices and sanitation standard operating procedures in order that the U.S. Department of Agriculture and the Honduran counterpart, SENASA, can collaborate and agree to specific requirements and criteria to ensure safe dairy products into the U.S. market.
- Promulgation of appropriate and applicable milk/dairy food standards and descriptions of processes/products.
- Training of target dairy farms and dairy plants relating to the promulgated process/product standards and the hygiene/sanitation protocols.
- Training of regional inspectors of dairy farms and dairy plants targeted as potential exporters of Honduran cheese varieties to the U.S. market.

The commercial requirements that will be required in order to facilitate export of Honduran cheese varieties to the U.S. market include:

- A description of the U.S. market for the Honduran cheese varieties “quesillo” and “queso seco/duro.”
- The identification of at least two (2) importers/distributors who will work with the targeted Honduran cheese manufacturers.
- The design and printing of appropriate packaging of Honduran cheese varieties with all applicable labeling requirements met for the U.S. market.

The technical requirements that must be met in order to facilitate export of Honduran cheese varieties to the U.S. market include:

- The development and implementation of specific inspection and certification standards of dairy farms and dairy foods manufacturing facilities.
- A measurable improvement in the microbiological quality of milk purchased by the target cheese manufacturing plants in order to meet the U.S. Department of Agriculture standards.
- Training of personnel in the target dairy farms and dairy plants in milk handling practices, sanitation, personal hygiene, and milk testing procedures to determine raw milk quality and gross composition.

All Honduran entities (private and public) involved in this process of marketing traditional Honduran cheese varieties in the U.S. market will be required to make an appropriate “investment” in order to meet specific target goals. The entities include: milk producers, cheese manufacturers, and SENASA of the Honduran *Secretaría de Agricultura*.

A time frame of six (6) months should prove sufficient to promulgate and implement sufficient regulations in order to meet minimum U.S. Department of Agriculture standards. The same time frame can be considered sufficient to provide training of the target dairy farms and dairy plants of the required sanitation and hygiene protocols.

A sample of packaged Honduran “quesillo” with appropriate and complete U.S. labeling requirements satisfied should be ready within a three (3) month time frame. The samples can be presented to interested importers/distributors for their suggestions/recommendations.

When U.S. importers/distributors are identified, the procedures to begin export of traditional Honduran cheese varieties to the U.S. market should begin with small-to-moderate batch sizes in accordance with importer/distributor recommendations.

SECTION I

Consultancy Activities

A. Assumptions

There are specific and important assumptions that must be made as interventions are introduced and implemented in the integration of milk-to-cheese-to-market activities. These assumptions have been made throughout the consultancy. If any of the assumptions are incorrect or inappropriate, changes to the suggested action plan will need to be made in accordance with the new/modified assumptions.

The assumptions follow:

- There exists a market in the United States for traditional Honduran cheese varieties.
- If (1) above is not valid, there exists the potential to create a market in the United States for traditional Honduran cheese varieties.
- The price points of traditional Honduran cheese varieties are appropriate for the target market in the United States.
- The quality of traditional Honduran cheese varieties can be consistent within production of any single Honduran cheese manufacturer, and among several Honduran cheese manufacturers.
- Identity of traditional Honduran cheese varieties either exists or can be created so that promotion costs of “pushing” the products into the United States’ market place will be less due to sufficient “pulling” by demand.
- Honduras’ infrastructure is sufficient for the channels necessary to reliably service the United States’ market.
- The export of traditional Honduran cheese varieties to the United States’ market provides a significant economic incentive for the milk-to-cheese-to-market integration. Producers, cheese manufacturers, and exporter/importer agents are all incentivized to make the integration work efficiently.
- In the event of a regulatory problem, the appropriate regulatory agencies of Honduras and the United States can engage in appropriate dialog to resolve the problem area(s).
- There are milk producers and cheese manufacturers located in the secondary cities’ areas who are sufficiently interested in making the necessary and appropriate changes to their operating practices in order to comply with the requisite legal and non-legal elements of the commercialization/marketing process.

B. Consultancy Activities

Three consultancy activities were undertaken while making appropriate observations during meetings and presentations throughout Honduras. The consultancy included numerous field site visits to dairy farms and cheese manufacturing plants. The number of visits to specific sites included:

- Two to Danlí
- Two to Choluteca
- One to Juticalpa/Catacamas
- One to San Pedro Sula

The consultancy also included meetings with appropriate counterparts of the PEP Project:

- Dairy inspection personnel from SENASA
- Meeting with Land O'Lakes field personnel
- Meeting with USAID/USDA personnel
- Meetings with various association officers of producer/processor organizations in Danlí, Choluteca, and Juticalpa

B1. Consultancy Activity No. 1 – Legal Activity

The purpose of the first consultancy activity was to “evaluate current policies and regulations regarding import of processed dairy products into the U.S. market. This must include milk (‘unpasteurized milk’) products.” This specific activity is defined as the “legal activity” of the consultancy. The specific findings of Honduran and U.S. policies/regulations relating to export of Honduran dairy products to the U.S. market included:

- SENASA currently inspects and certifies cheese plants for export of Honduran cheese varieties to El Salvador, together with participation of a Salvadoran certification counterpart.
- Honduras has not promulgated or implemented the good manufacturing practices (GMPs) or the sanitation standard operating procedures (SSOPs), which represent the accepted protocols of food handling and food manufacturing.
- The SENASA dairy group is very familiar with the appropriate GMPs and SSOPs and wants these practices/protocols to be formal regulations in Honduras.
- The SENASA dairy group is small and has limited resources to conduct its inspections of farms and dairy plants on a regular basis.
- The SENASA analytical facilities are limited and centralized.
- The SENASA dairy group is highly respected.

- Honduran “quesillo” is a “cooked cheese” similar in processing to a Mozzarella cheese made from part skim milk. There is no standard of identity within part 133 of title 21 of the U.S. Code of Federal Regulations (CFR) under which “quesillo” would be required to comply as to composition and process protocols.
- Specific parts of title 21 of CFR would apply to “quesillo” as to packaging/labeling requirements and food safety regulations.
- Part 58 of title 7 of CFR regulates some processing conditions and other parameters of dairy products. Section 439 of part 58 (7CFR58.439) is entitled “Cheese from unpasteurized milk” may not apply directly to “quesillo” because the finished product is a “pasteurized cheese product” by its being cooked to a temperature greater than 150 degrees Fahrenheit (65.6 degrees Celsius) for more than thirty (30) seconds.
- The U.S. Department of Agriculture (USDA) can assist SENASA counterpart to “certify” Honduran cheese plants for export of “quesillo” to U.S. market (pursuant to 7CFR58).
- Part 133 of title 21 of CFR may not apply to Honduran “queso seco/duro” varieties because there is no standard of identity within this part of 21CFR.
- Specific parts of title 21 of CFR would apply to “queso seco/duro” as to packaging/labeling requirements and food safety regulations.
- Part 58 of title 7 of CFR will apply directly to “queso seco/duro” because this Honduran cheese variety is manufactured from unpasteurized milk but is not a cooked cheese variety. The USDA regulation of marketing cheese varieties manufactured from unpasteurized milk requires that such cheese be matured for a period of at least sixty (60) days at a temperature not less than 35 degrees Fahrenheit (1.7 degrees Celsius).
- The USDA can assist SENASA counterpart to “certify” Honduran cheese plants for export of “queso seco/duro” to U.S. market (pursuant to 7CFR58).

B2. Consultancy Activity No. 2 – Commercial Activity

The purpose of the second consultancy activity was to “establish mechanisms to promote exports of Honduran specialized ethnic dairy products into the U.S. market.” This specific activity is defined as the “commercial activity” of the consultancy. The specific findings of appropriate commercial/marketing information and activities to export Honduran dairy products to the U.S. market included:

- There exists much anecdotal information, but very little verifiable information, about the movement of Honduran cheese varieties through “runners” to U.S. and through the El Salvador market.

- Some information exists about El Salvador price paid to Honduran certified cheese plants for “quesillo.”
- Almost no information exists regarding the volume of Honduran cheese varieties that end in U.S. market.
- Prices paid by El Salvador to certified Honduran plants is below break-even point.
- Different observations made by Hondurans exist regarding whether “country of origin” is indicated on Honduran cheese varieties in U.S. market. Some sources say that “Quesillo Salvadoreño” states on packaging that the cheese is a “Product of Honduras.” Other sources have not seen this declaration. This difference could be explained by whether the observed cheese package originated with Salvadoran or Honduran “quesillo.”
- It is not known if the name “quesillo” is a registered trademark in the U.S. It is also not known if such a name as “quesillo” can be a registered trademark.
- Considering that Salvadoran “quesillo” is in the U.S. market, it is unlikely that promotion or positioning need take place of Honduran “quesillo” in the U.S. Hispanic niche market.
- Honduran “queso seco/duro” may not require significant promotion or positioning in U.S. Hispanic niche market.
- Secondary cities’ producers/processors have been informed that the three “value components of food articles for the U.S. consumer are quality, service, and price.
- SENASA, producers, and processors have learned that quality and safety of food articles are important issues to importer/distributor/broker because of liability responsibilities.
- Producer and processors groups in secondary cities are eager to work together to meet the demands required in the U.S. import and Hispanic niche market.
- Producer and processor groups know and understand the need to improve raw material and finished product qualities in order to meet the demands required in the U.S. import and Hispanic niche market.
- There are no identified importers/distributors/brokers who are interested in importing/distributing Honduran cheese varieties into U.S. Hispanic niche market.
- Cost of production determinations (of “quesillo”) have been made for a group of processors in the Choluteca area.
- Small volume entry of Honduran “quesillo” into U.S. Hispanic niche market is the recommended strategy for the short-term. Exact “small” volume requirements will need to be determined in collaboration with importers/distributors/brokers.

B3. Consultancy Activity No. 3 – Technical Activity

The purpose of the third consultancy activity was to “establish the guidelines and standards required for plant inspection and certification in order to export into the U.S. market.” This specific activity is defined as the “technical activity” of the consultancy. The specific findings of appropriate technical information and activities to export Honduran dairy products to the U.S. market included:

- Small- and medium-sized dairy farms use traditional practices that are considered unacceptable under international food safety criteria.
- Many cheese plants do not practice hygiene and sanitation protocols applicable to milk and dairy products handling/manufacturing.
- Cheese plants do not provide an economic incentive to milk producers so that the latter improve the raw material quality and gross composition.
- Milk quality and milk composition are not components of the milk payment system.
- Many simple, low- or no-cost practices can be put in place at dairy farms in order to improve raw milk quality.
- Many simple, low- or no-cost practices can be put in place at cheese plants in order to improve finished products’ quality and yield.
- Cheese plants do not determine production yield as percent of raw milk purchased.

SECTION II

Action Plan

A. Introduction

This action plan is written to assist in direction of the PEP Project as applicable to the “Dairy Policy - Access to the U.S. Specialty Dairy Product Markets” subproject. The plan includes activities and information gathering that will comply with the terms of reference of the subproject. The action plan also will direct a furtherance of the requirements to move traditional Honduran cheese varieties to the appropriate channels for importation into specialty markets in the United States.

The “mechanical” activities necessary to move traditional Honduran cheese varieties into the United States’ market are less “strenuous” or “difficult” than encountered under previous United States’ importation laws/policies. The new “tariff-rate quota” system has been described in previous reports to PEP staff by this consultant. However, other elements of the process come into prominence when considering the exportation from Honduras of some of its traditional cheese varieties. These important elements require careful study and interventions so that the non-regulatory factors can be satisfied to improve chances of commercial success of selling the target cheese varieties in the United States’ market.

This action plan presents activities and interventions that can take place over an approximate six-month time period. At the conclusion of this action plan, it is expected that a measurable quantity of traditional Honduran cheese varieties will be exported to the United States’ market on a regular basis. This initial commercialization of the cheese varieties into United States’ market may be small compared with total cheese production in Honduras. The importance of developing and implementing the improved practices/protocols within the dairy industry as well as demonstrating the mechanisms of exportation through appropriate channels are the essence of the “model” needed for future widening of the Honduran cheese industry in foreign markets.

The seven entities that can assume responsibilities and perform specific actions to move the legal, commercial, and technical tasks forward are:

- Milk producers in the secondary cities
- Cheese processors from the secondary cities
- *Comité de Competitividad* in each secondary city
- PEP Project
- SENASA/SAG
- Land O’ Lakes
- USDA

B. Milk Producers in the Secondary Cities

The milk producers supplying raw milk to the targeted cheese plants have a crucial role in the legal, commercial, and technical tasks in order that high quality Honduran traditional cheese varieties can be exported to the U.S. Hispanic niche market. The raw milk quality has a direct (and nearly all inclusive) relation to the quality of the finished cheese products.

The milk producers must be committed to improve milk quality by their actions of:

- Adopting the best possible milking practices as presented by appropriate training.
- Adopting the best possible raw milk handling practices as presented by appropriate training.
- Adopting best possible animal management practices as presented by appropriate training.
- Adopting best possible milking schedule to assure that the freshest possible raw milk is delivered to the target cheese plant.
- Adopting the strictest personal hygiene and sanitation practices of all food contact surfaces (human and equipment surfaces) throughout the milking and milk collection procedures.
- Attending training sessions when such sessions are scheduled in the producer's secondary city area.
- Adopting appropriate small farm management practices through production and accounting record keeping.

The milk producers will be required to provide small “investment expenditures” in order to meet the targeted raw milk quality of the cheese plants. These “investment expenditures” include:

- Soap to wash hands, udder teats, and food contact surfaces of all milking equipment (pails, barrels, milk cans, filter cloths, etc.) before and after milking each cow.
- Appropriate sanitizing agent such as chorine (household bleach) at 50 parts per million (of active hypochlorite) to sanitize hands, udder teats, and food contact surfaces of all milking equipment (pails, barrels, milk cans, filter cloths, etc.) before and after milking each cow.
- Rolls of absorbent paper (e.g. toilet paper, newspaper, kitchen paper towels) to wipe udder teats after sanitizing before and after milking each cow. (Cloth materials must not be used to wipe the udder teats because such materials spread contamination particles from one teat to another, or from one animal to another.

- Reusable cheese cloth (fine mesh) to filter raw milk that is transferred from collection utensil (e.g. pail) to raw milk holding vessel (plastic barrel or metal milk can). When excess sediment particles are visible on the cheese cloth, it should be thoroughly rinsed in clean water and dipped into a 200 ppm hypochlorite solution for 30 seconds before re-attaching the cheese cloth to the holding vessel. At the end of milking the cheese cloth must be washed with soap/water and sanitized with 200 ppm hypochlorite solution for 30 seconds and then hung to air dry.
- Reusable cotton cloth (e.g. an old uncolored tee-shirt) that is placed below the cheese cloth filter (described above) in order to provide greater filtration of sediment particles in the raw milk. When excess sediment particles are visible on the cotton cloth, it should be thoroughly rinsed in clean water and dipped into a 200 ppm hypochlorite solution for 30 seconds before re-attaching the cotton cloth below the cheese cloth to the holding vessel. At the end of milking the cotton cloth must be washed with soap/water and sanitized with 200 ppm hypochlorite solution for 30 seconds and then hung to air dry.
- Many dairy farms must improve the milking area including the ground and structures. The ground of the milking area must be kept clean and dry during the milking procedures. There should be a separate area for milking rather than having all animals in the same corral area during the milking process.

The milk producers must be given a target of milk (microbiological) qualities corresponding to No. 1 and No. 2 milks as defined by USDA in Title 7 of the U.S. Code of Federal Regulations, Part 58.135. These two milk grades are defined as:

No. 1 grade: Not over 500,000 (bacteria count) per milliliter of milk

No. 2 grade: Not over 1,000,000 (bacteria count) per milliliter of milk

Milk that has greater than 1,000,000 (bacterial count) per milliliter is considered “undergrade.” Producers of “undergrade” milk should be given a temporary period of four (4) weeks to improve the milk quality to No. 2 or No. 1. If no improvement to these higher standards is made during the four week probationary period, the milk shall not be accepted by the cheese plant for use in manufacturing cheeses.

The milk producers must be given a target of sediment quantity of raw milk as defined by USDA in Title 7 of the U.S. Code of Federal Regulations, Part 58.134. The four (4) USDA sediment standards are:

No. 1 (acceptable): Not to exceed 0.50 mg. or equivalent

No. 2 (acceptable): Not to exceed 1.50 mg. or equivalent

No. 3 (probational, not over 10 days): Not to exceed 2.50 mg. or equivalent

No. 4 (reject): Over 2.50 mg. or equivalent

The above two quality tests must be performed by trained personnel at the cheese plants using a small sample of milk taken from a producer’s bulk milk delivery. If either “undergrade” milk or

No. 3 or No. 4 sediment grade(s) is(are) detected, the producer(s) must be notified immediately in order that corrective actions can be implemented.

C. Cheese Processors in the Secondary Cities

The cheese processors receiving and transforming raw milk to cheese products have a vital role in the legal, commercial, and technical tasks in order that high quality Honduran traditional cheese varieties can be exported to the U.S. Hispanic niche market. The transformation process of raw milk to cheese has a direct relation to the quality of the finished cheese products.

The cheese processors must be committed to improve finished cheese product quality by their actions of:

- Adopting the best possible raw milk handling practices during raw milk reception and raw milk transfer to cheese plant as presented by appropriate training.
- Adopting strictest personal hygiene and sanitation practices of all food contact surfaces (human and equipment surfaces) as presented by appropriate training.
- Attending training sessions when such sessions are scheduled in the processor's secondary city area.
- Adopting appropriate small dairy plant management practices through milk reception, processing, cleaning/sanitizing, quality control, and accounting record keeping.
- Coordinating raw milk collection schedule with producers and plant's processing schedule to ensure that the freshest possible raw milk is used in the cheese making processes.

The cheese processors will be required to provide "investment expenditures" in order to meet the targeted finished cheese product quality. These "investment expenditures" include:

- Purchase of appropriate testing equipment to determine producers' raw milk quality. The specific equipment needs include: sediment test kit with appropriate sediment reference standards; equipment for bacterial estimate using resazurin or methylene blue test (indicator tablets, test tubes, pipettes, standard reference colors); milk hydrometer to measure specific gravity of each producer's raw milk; equipment to measure titratable acidity of producer's raw milk.
- Measuring equipment to accurately determine raw milk volume received of each producer. The base price of raw milk will be determined on a volume (liter or "botella") basis.
- Weighing equipment to accurately determine weight of finished cheese product(s). Recorded weights will be used to determine "cheese yield" as percent of received raw milk.

- Packaging equipment to appropriately package cheese products. The cheese should be packaged under vacuum with appropriate product weight. Weighing equipment should provide sufficient sensitivity to accurately measure finished product put into package.
- Appropriate cooling room capacity to maintain finished/packaged cheese product at 7 C or lower.
- Appropriate dry goods storage area to prevent contamination to packaging materials.
- Soap to wash hands and all food contact surfaces of all cheese plant equipment (milk reception utensils/tanks, piping, cheese vats, cheese making equipment, plastic pails, filter cloths, etc.) before and after cheese making processes.
- Appropriate sanitizing agent such as chlorine (household bleach) at 200 parts per million (of active hypochlorite) to sanitize hands and all food contact surfaces of all cheese processing equipment (milk reception utensils/tanks, piping, cheese vats, cheese making equipment, plastic pails, filter cloths, etc.) before and after cheese making processes.
- Reusable cheese cloth (fine mesh) to filter raw milk that is transferred from reception area to plant's holding vessel (tank or cheese vat). When excess sediment particles are visible on the cheese cloth, it should be thoroughly rinsed in clean water and dipped into a 200 ppm hypochlorite solution for 30 seconds before re-attaching the cheese cloth to the holding vessel. At the end of raw milk reception the cheese cloth must be washed with soap/water and sanitized with 200 ppm hypochlorite solution for 30 seconds and then hung to air dry.
- Reusable cotton cloth (e.g. an old uncolored tee-shirt) that is placed below the cheese cloth filter (described above) in order to provide greater filtration of sediment particles in the received raw milk. When excess sediment particles are visible on the cotton cloth, it should be thoroughly rinsed in clean water and dipped into a 200 ppm hypochlorite solution for 30 seconds before re-attaching the cotton cloth below the cheese cloth to the holding vessel. At the end of raw milk reception the cotton cloth must be washed with soap/water and sanitized with 200 ppm hypochlorite solution for 30 seconds and then hung to air dry.
- Many cheese processing plants must improve the overall plant sanitation practices so that post-processing contamination of finished product is minimized. Appropriate sanitation practices of floors, walls, etc. must be maintained on a regular basis.

D. *Comité de Competitividad* in each Secondary City

The target secondary cities for cheese plant certification to export cheese product to the U.S. market will require a cooperative and collaborative effort of milk producers and cheese processors. The *Comité de Competitividad* can serve as facilitator/coordinator of the joint producer/processor group. This *Comité de Competitividad* shall have the responsibility to

maintain open communication channels of all producers and processors whose product(s) are exported to the U.S. market.

The joint producer/processor group shall hold regularly scheduled meetings facilitated by the *Comité de Competitividad* to assist in the following:

- To discuss problems of mutual interest in order to maximize efficiencies of procedures and processes of milk collection, milk testing, milk payment, cheese product quality.
- To progress forward toward an incentivized milk payment system based on raw milk quality and gross composition with agreed-to premiums and penalties.
- To communicate scheduled training sessions to all members.
- To obtain from all members ideas for future training sessions.

E. Policy Enhancement & Productivity Project

The PEP Project can concentrate its efforts on the legal/regulatory issues and on selected commercialization/marketing activities in order to promote certified and high quality Honduran cheese products into the U.S. market. The PEP Project has scheduled experts/consultants during the months of August/September to work with appropriate Honduran counterpart agencies to develop:

- Documentation and policy recommendations of grades/standards of milk and dairy products, certification procedures, training, and implementation procedures of the new regulations.
- Policy actions regarding import/export and trade of traditional Honduran agricultural products.

These scheduled consulting activities by the PEP Project are critical to the forward progress of Honduras' providing minimal and acceptable regulatory policies and protocols in order to meet international standards of food quality and safety.

Specific legal/regulatory activities that the PEP Project shall facilitate and coordinate include:

- Promulgation by SENASA/SAG of acceptable "Good Manufacturing Practices" and "Sanitation Standard Operating Procedures" to fit the traditional Honduran milk and dairy foods industries.
- Promulgation by SENASA/SAG of appropriate grades and standards of identity of traditional Honduran milk products and dairy foods.
- Assistance to SENASA/SAG/USDA to develop written and visual materials to be used as training tools to illustrate to milk producers and cheese processors appropriate and

acceptable practices/protocols of milk production/collection and dairy foods processing/handling.

- Collaboration with Land O' Lakes personnel to determine market size/share/price points/packaging/promotion information of traditional Honduran cheese varieties ("quesillo" and "queso seco/duro") in the U.S. market.
- Collaborate with Land O' Lakes personnel to identify at least two (2) licensed importers/distributors/brokers who will work with the targeted Honduran cheese suppliers to promote and position the cheese products in the U.S. Hispanic market.
- Collaborate with appropriate Honduran entity to perform trademark search of the term "quesillo" and "queso seco" or "queso duro" to determine if these can be protected by registered trademark.

F. SENASA/SAG

The SENASA agency of SAG has a major responsibility and role to play in the efforts to improve Honduran traditional cheese varieties' quality in order to comply with acceptable international standards of dairy food quality and safety. The SENASA agency has limited resources in terms of personnel and support services to meet the future demand for improved and regular inspection, certification, training, and testing of and for the Honduran dairy industry.

The *Secretaría de Agricultura y Ganadería* will have to locate and position resources in SENASA so that progress in developing an exporting dairy industry (to U.S. markets) of traditional Honduran cheese products can take place in the short-term. The SENASA agency shall have oversight responsibilities of regional inspection and certification services in the secondary cities. The oversight responsibilities will include: training of the regional Inspection/certification personnel, centralized laboratory testing of milk and dairy foods in order to serve as an independent laboratory source, and final approving agency of Honduran domestically-marketed and export-marketed dairy food products to assure that compliance with respective regulations (packaging, labeling, etc.) occurs.

The SENASA agency shall promulgate the necessary and required manufacturing practices, sanitation protocols, testing methodologies, and inspection/certification procedures for Honduras' milk and dairy industries. Dairy food products destined for foreign markets (e.g. the U.S. market) could carry a SENASA certification number and the finished products could indicate on the package a "SENASA Seal of Quality," such "seal" representing that the exportable product has meet the established and internationally-accepted standards of quality and safety. If a "SENASA Seal of Quality" were required on packages of Honduran cheese products for export, a small levy could be assessed to the cheese processors for the right to use the "seal." The benefit to the cheese processors would be that Honduran cheese products entering into foreign markets would all meet a minimum of quality and safety standards, thereby presenting a highly positive "image" to the consumer of the dairy products.

The SENASA agency will need to obtain additional and much-needed resources (human resources and support services) in order to perform the following important regulatory functions:

- Promulgation of acceptable “Good Manufacturing Practices” and “Sanitation Standard Operating Procedures” to fit the traditional Honduran milk and dairy foods industries. (Model materials in Annexes A, B, and C.)
- Promulgation of appropriate grades and standards of identity of traditional Honduran milk products and dairy foods.
- Development of written and visual materials to be used as training tools to illustrate to milk producers, cheese processors, and regional “inspectors” the appropriate and acceptable practices/protocols of milk production/collection and dairy foods processing/handling. (Annexes D and E.)
- Training qualified regional “inspectors” in the secondary cities where certified-for-export cheese processing plants are located. The regional “inspectors” can function as a private service paid on a “fee for service” basis by dairy farm owners and dairy plant owners. Each secondary city will eventually require one (1) trained inspector of dairy farms and dairy plants and one (1) veterinarian trained in inspection of dairy farm animals. The inspectors and veterinarians will obtain on-going training by SENASA and other collaborators when regulatory practices and protocols are revised or modified in order to meet acceptable international standards.
- The SENASA agency must have an equipped laboratory facility with appropriate trained personnel in order to perform the necessary analyses of milk and dairy foods. The SENASA laboratory can function as an independent laboratory to verify certified cheese plant analyses of milk and finished products.
- The SENASA laboratory can also function as the monitor of milk quality from areas where milk payment is based on quality and composition. Additional tests (per Title 7 of U.S. Code of Federal Regulations, Parts 58.133 and 58.135) that can be performed in the SENASA laboratory (but would not be performed at the cheese plants of the area) include: somatic cell count of producer milk performed at least four times in each six-month period; drug (antibiotic) residue level in producer milk performed on a regular and random basis; bacterial estimate of producer milk at least once per month using either direct microscopic count, standard plate count, or plate loop count methodologies.

The laboratory equipment needed to perform these important analyses include:

- Automated somatic cell counter (not required in short-term; necessary for long-term development of payment system of milk based on quality).
- Laboratory supplies (petri dishes, pipettes, dilution bottles, standard plate count media, autoclave) to perform standard plate (bacterial) count.

- Laboratory supplies (petri dishes, pipettes, dilution bottles, appropriate media for testing antibiotic residues, materials for Delvotest) to perform drug residue (antibiotics).
- Equipment to test total fat in milk and cheese products (Rose-Gottlieb or Gerber methodologies using fat determination bottles, centrifuge, pipettes, solvents, water bath).
- Udy dye-binding kit to test for total protein in raw milk. The kit includes reagents, mixing bottles, colorimeter, milk standards to determine standard curve.

The estimated cost of this equipment and supplies is approximately US\$20,000 (without purchase of automated somatic cell counter in short-term). The testing of raw milk samples can be performed on a “fee for service” basis because a new milk payment system will pay premiums for high quality milk as tested by a SENASA laboratory. The testing of a producer’s milk sample for standard plate (bacterial) count, drug residue, fat, and protein can be performed two times a month, using the results of to determine premiums to be paid (or penalties to be assessed).

The personnel needed to perform and record the laboratory tests include: one (1) full-time trained analytical technician, and one part-time collector of producer raw milk samples to transport to central SENASA laboratory.

G. Land O'Lakes

The Land O’ Lakes (LOL) project team can play a key role in many of the technical activities to help improve dairy farm practices and cheese plant/manufacturing procedures. The LOL project is investigating the potential to place collection points equipped with basic testing equipment and actively-refrigerated bulk tanks at strategic locations. This is an important strategy to help improve the raw milk quality in Honduras.

The LOL project can collaborate with SENASA in training of dairy farm operators and cheese plant workers in appropriate and acceptable practices/procedures. Using PEP/SENASA developed written and visual materials, the LOL team can present in group meetings of producers and processors the practices that need to be instituted at all levels of production/processing to comply with accepted hygiene, sanitation, handling, transport, and storage standards.

Collaboration between LOL and SENASA can perform the following activities:

- Collaborate with SENASA in developing and implementing a comprehensive dairy farm and dairy plant inspection/certification program using the 1999 Pasteurized Milk Ordinance (PMO) as a basic information base.
- Collaborate with SENASA in training of regional inspectors using the written and visual materials prepared by PEP/SENASA.
- Collaborate with PEP to perform market study of Honduran traditional cheese varieties in the U.S. Hispanic niche market.

- Assist joint groups of producers and processors of target cheese-export area(s) to develop and implement an incentive payment system for milk based on quality and composition. The LOL team can assist the certified-for-export (to U.S.) cheese plants in studying the actual yield values of cheese varieties from raw milk. These yield value studies will be the base from which an incentive payment system will be presented to producers and implemented by the joint producer/processor group.
- Collaborate with SENASA to design and print compliant packaging for traditional Honduran cheese varieties.
- Collaborate with target cheese processors to obtain complete nutrient analysis of “quesillo” (short-term) and “queso seco/duro” (long-term) in order to comply with NLEA 1990 regulation requiring “Nutrition Facts” box on all packaged foods.

H. United States Department of Agriculture/Honduras

The USDA/Honduras mission will also participate in the development and implementation of a Honduran regulatory system overseeing the national dairy industry. In particular, the USDA/Honduras mission will assist its counterpart agency, SENASA, by collaboration to assure that specific product quality and safety standards are incorporated into the SENASA inspection/certification procedures and protocols.

This consultant cannot state the specific tasks that USDA/Honduras can undertake because he is not sufficiently familiar with the USDA/Honduras mission responsibilities. It can be suggested, however, that USDA/Honduras and USDA/Washington personnel should review appropriate SENASA documents as these are developed and prior to implementation. Also, the various USDA staff experts can review the written and visual training materials for content so that information contained within is correct according to USDA dairy plant grading and inspection.

This consultant recommends that USDA/Honduras mission play an active role in collaboration and cooperation meetings that will be held among the host national and assistance groups that are dedicated to the dairy policy, dairy trade, and dairy standards projects.

SECTION III

Activity Timeline

A. Timeline

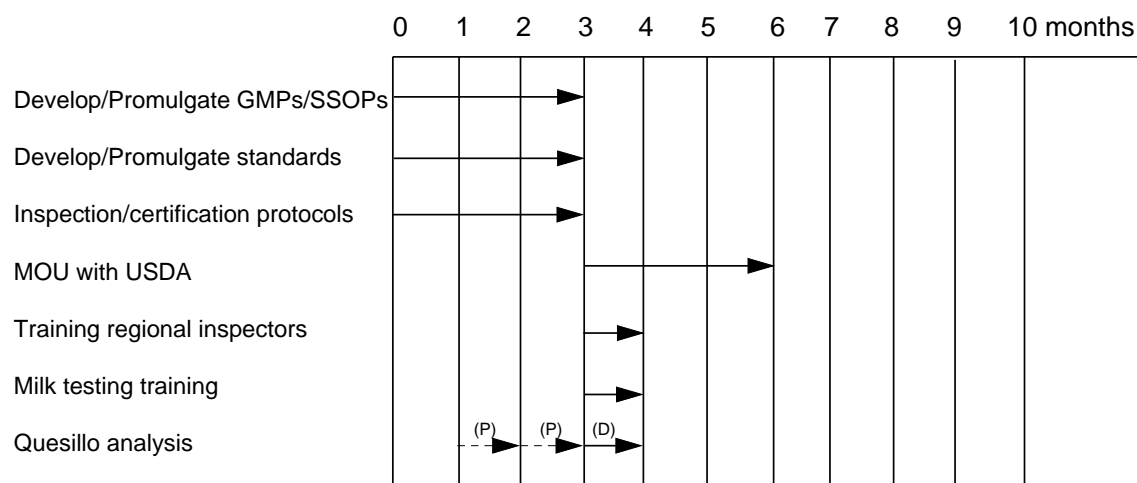
The GANTT charts below illustrate suggested timelines for the legal, commercial, and technical activities that can be undertaken during an eight-month period, with the most important activities taking place during a six-month period. Although optimistic, these timelines can be met in order that an initial delivery of traditional Honduran “quesillo” could be made to a U.S. importer/distributor.

The development/promulgation of dairy standards, GMPs, and SSOPs can take place during an initial three-month period. With such standards/protocols in place by SENASA, the target dairy farms and cheese plants of the chosen secondary cities can receive initial training in order to qualify for appropriate inspection/certification. Training materials can be developed during a subsequent three-month period for use in human resource development of other secondary cities’ target dairy farms and cheese plants.

Appropriate packaging development can take place after discussions with identified importers/distributors/brokers.

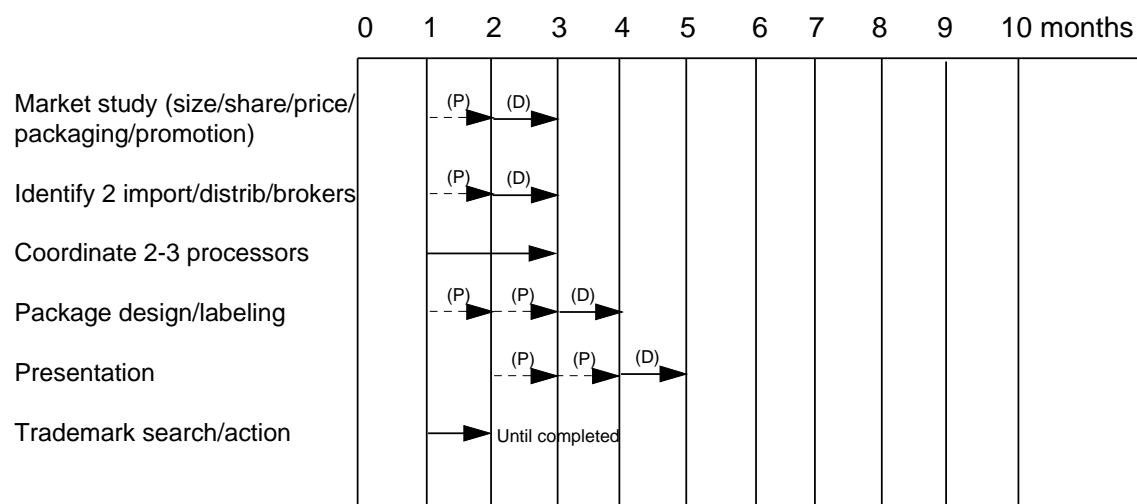
An incentivized payment system for milk based on quality can be set up after the six-month period when target parties have participated in the six-month commercialization and training segments of the project. The target dairy farms and cheese plants of the first commercialization and export of Honduran “quesillo” will serve as the model for replication to other secondary cities.

“Legal Activities”



(P) - Possible
(D) - Definite

“Commercial Activities”



(P) - Possible
(D) - Definite

“Technical Activities”

